

# Claims

- [c1] A forward-mounted plunger control adapter for retrofit attachment to a pre-existing syringe where the pre-existing syringe includes a needle, a hub for holding the needle, a barrel having a leading end to which the hub is mounted, an elongate plunger having a leading end slideably mounted within the barrel and a trailing end external to the barrel, said adaptor comprising:
- a slide member adapted to slideably engage a first, upper surface of said barrel;
  - a flange housing adapted to releasably engage a flange formed integrally with a trailing end of said plunger;
  - an elongate connector for interconnecting said slide member to said flange housing so that movement of said slide member effects simultaneous and corresponding movement of said flange housing and hence of said plunger flange and hence of said plunger;
  - a pair of laterally-extending tabs formed integrally with a trailing end of said barrel;
  - a guide member adapted to releasably engage said laterally-extending tabs;
  - said guide member adapted to releasably engage said barrel;

said guide member adapted to be grasped between fingers of the hand of a user;  
said guide member being releasably and slideably engaged to said elongate connector;  
said slide member adapted to be controlled by a digit of a user;  
said slide member being positioned at a leading end of said barrel in closely spaced relation to a leading end of said plunger;  
whereby said adapter is adapted to be attached to said syringe;  
whereby said syringe is adapted to be held in a single preselected hand when said adaptor is engaged thereto;  
and  
whereby no change in hand position is needed between a retraction of said plunger in a leading-to-trailing direction relative to said barrel and advancement of said plunger in a trailing-to-leading direction relative to said barrel.

[c2] The adaptor of claim 1, wherein said slide member includes a first part for slideably engaging said barrel and a second part adapted for abutting engagement by a thumb or finger.

[c3] The adaptor of claim 2, wherein said first part conforms to a curvature of said upper surface of said barrel and

wherein said second part ergonomically conforms to the contour of a thumb.

- [c4] The adaptor of claim 1, wherein said syringe is supported from below by fingers of said user when in use  
The adaptor of claim 4, wherein said guide member includes a plurality of legs that depend below said barrel and wherein said legs are positioned between preselected fingers of a user when the syringe is in use.
- [c5] The adaptor of claim 5, wherein said plurality of legs is four legs, there being two leading legs positioned on opposite sides of said barrel and two trailing legs positioned on opposite sides of said barrel, and there being a space of predetermined longitudinal extent between said leading legs and said trailing legs.
- [c6] The adaptor of claim 6, wherein said space of predetermined longitudinal extent is substantially equal to a thickness of the laterally extending tabs formed integrally with said trailing end of said barrel.
- [c7] The adaptor of claim 1, wherein said guide member includes a solid head and a horizontally extending slot formed in said solid head, said horizontally extending slot adapted to slidably receive said elongate connector, and said horizontally extending slot being transversely

disposed relative to a longitudinal axis of said syringe.

[c8] The adaptor of claim 8, further comprising a detent means formed in said horizontally extending slot to retain said elongate connector within said horizontally extending slot.

[c9] The adaptor of claim 1, wherein said guide member further comprises:  
a head for engaging said elongate connector;  
a first pair of legs depending from opposite sides of said head and being positioned on opposite sides of said barrel for engaging said barrel therebetween;  
a second pair of legs depending from opposite sides of said head and being positioned on opposite sides of said barrel for engaging said barrel therebetween; and  
said first pair of legs being longitudinally spaced from said second pair of legs by a predetermined longitudinal extent.

[c10] The adaptor of claim 10, wherein said predetermined longitudinal extent is substantially equal to a thickness of said laterally extending tabs.

[c11] A syringe attachment adapted to be retrofit onto a syringe, comprising:  
a slide member adapted to slideably engage a first, up-

per surface of a syringe barrel;  
a flange housing adapted to engage a flange formed integrally with a trailing end of a syringe plunger;  
an elongate connector for interconnecting said slide member to said flange housing so that movement of said slide member effects simultaneous and corresponding movement of said flange housing and hence of said plunger flange and hence of said plunger;  
a pair of laterally extending tabs formed integrally with a trailing end of said barrel;  
a guide member adapted to engage said laterally extending tabs;  
said guide member adapted to engage said barrel;  
said guide member adapted to be grasped between fingers of the hand of a user;  
said guide member being releasably and slideably engaged to said elongate connector;  
said slide member adapted to be controlled by a digit of a user;  
said slide member being positioned at a leading end of said barrel in closely spaced relation to a leading end of said plunger;  
whereby said adapter is adapted to be attached to said syringe;  
whereby said syringe is adapted to be held in a single preselected hand when said adaptor is engaged thereto;

and

whereby no change in hand position is needed between a retraction of said plunger in a leading-to-trailing direction relative to said barrel and advancement of said plunger in a trailing-to-leading direction relative to said barrel.

[c12] The syringe attachment of claim 12, wherein said guide member includes a solid head and a horizontally extending slot formed in said solid head, said horizontally extending slot adapted to slidably receive said elongate connector, and said horizontally extending slot being transversely disposed relative to a longitudinal axis of said syringe.

[c13] The syringe attachment of claim 13, further comprising a detent means formed in said horizontally extending slot to retain said elongate connector within said horizontally extending slot.

[c14] The syringe attachment of claim 12, wherein said guide member further comprises:  
a head for engaging said elongate connector;  
a first pair of legs depending from opposite sides of said head and being positioned on opposite sides of said barrel for engaging said barrel therebetween;  
a second pair of legs depending from opposite sides of

said head and being positioned on opposite sides of said barrel for engaging said barrel therebetween; and said first pair of legs being longitudinally spaced from said second pair of legs by a predetermined longitudinal extent.

- [c15] The syringe attachment of claim 15, wherein said predetermined longitudinal extent is substantially equal to a thickness of said laterally extending tabs.
- [c16] The syringe attachment of claim 12, wherein said flange housing is adapted to permanently engage said flange so that the syringe attachment cannot be removed from said syringe in the absence of extraordinary effort.
- [c17] A forward-mounted plunger control adapter for retrofit attachment to a pre-existing syringe where the pre-existing syringe includes a needle, a hub for holding the needle, a barrel having a leading end to which the hub is mounted, and said barrel having an open trailing end, said adaptor comprising:
  - a slide member adapted to slideably engage a first, upper surface of said barrel;
  - an elongate plunger having a leading end slideably mounted within the barrel and a trailing end external to the barrel,
  - an elongate connector having a leading end connected to

said slide member and a trailing end formed integrally with said trailing end of said plunger so that movement of said slide member effects simultaneous and corresponding movement of said plunger;  
whereby said slide member is placed into operative engagement with said barrel when said plunger is slideably inserted into said open trailing end of said barrel.

[c18] The adaptor of claim 18, further comprising:  
a pair of laterally-extending tabs formed integrally with a trailing end of said barrel;  
a guide member adapted to releasably engage said laterally-extending tabs;  
said guide member adapted to releasably engage said barrel;  
said guide member adapted to be grasped between fingers of the hand of a user;  
said guide member being releasably and slideably engaged to said elongate connector;  
said slide member adapted to be controlled by a digit of a user;  
said slide member being positioned at a leading end of said barrel in closely spaced relation to a leading end of said plunger;  
whereby said adapter is adapted to be attached to said syringe;



whereby said syringe is adapted to be held in a single preselected hand when said adaptor is engaged thereto; and

whereby no change in hand position is needed between a retraction of said plunger in a leading-to-trailing direction relative to said barrel and advancement of said plunger in a trailing-to-leading direction relative to said barrel.

[c19] The adaptor of claim 19, wherein said slide member includes a first part for slideably engaging said barrel and a second part adapted for abutting engagement by a thumb or finger.

[c20] The adaptor of claim 20, wherein said first part conforms to a curvature of said upper surface of said barrel and wherein said second part ergonomically conforms to the contour of a thumb.

[c21] The syringe of claim 19, wherein said guide member includes a plurality of legs that depend below said barrel and wherein said legs are positioned between preselected fingers of a user when the syringe is in use.

[c22] The syringe of claim 22, wherein said plurality of legs is four legs, there being two leading legs positioned on opposite sides of said barrel and two trailing legs posi-

tioned on opposite sides of said barrel, and there being a space of predetermined longitudinal extent between said leading legs and said trailing legs.

[c23] The syringe of claim 23, wherein said space of predetermined longitudinal extent is substantially equal to a thickness of the laterally extending tabs formed integrally with said trailing end of said barrel.

[c24] The syringe of claim 19, wherein said guide member includes a solid head and a vertically-extending slot formed in said solid head, said vertically-extending slot adapted to slidably receive said elongate connector, and said vertically-extending slot being longitudinally disposed relative to a longitudinal axis of said syringe.